REMARKS

Petition for Extension of Time Under 37 CFR 1.136(a)

It is hereby requested that the term to respond to the Office Action of June 24, 2009 be extended two months, from September 24, 2009 to November 24, 2009.

The Commissioner is hereby authorized to charge the extension fee, and any additional fees associated with this communication to Deposit Account No. 50-4364.

In the Office Action, the Office indicated that claims 1 through 25 are pending in the application, claims 3, 10, 14 and 21 are objected to, and claims 1-2, 4-9, 11-13, 15-20, and 22-25 are rejected.

Indication of Allowable Subject Matter

Applicant appreciates the indication of allowable subject matter in the forms of claims 3, 10, 14 and 21. However, the applicant believes that the claims amended herewith overcome the claim rejections in the office action, for the reasons discussed below.

Claim Amendments

With respect to the claim amendments made, the applicant has amended the independent claims 1 and 12, in accordance with the Examiner's suggestion, to include a "thereby" clause and has also amended claim 1 to refer to a "non volatile memory drive" throughout, in response to the claim objection thereto.

In addition, a minor amendment is made to claim 25 to delete the word "step", and claim 23 relating to "A computer product" claim has been cancelled and replaced by a new

claim 26 which contains a computer product claim in a more conventional format, and which claims code for performing the corresponding method of claim 12.

Rejections under 35 U.S.C. §103

On page 3 of the Office Action, the Office rejected claims 1, 4-5, 11-12, 15-16, and 22-25 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,279,109 to Brundridge in view of U.S. Patent No. 6,591,376 to VanRooven. On page 6 of the Office Action, the Office rejected claims 2 and 13 under 35 U.S.C. §103(a) as being upatentable over Brundridge in view of VanRooven, and further in view of U.S. Patent Application Publication No. 2003/0074550 to Wilks. On page 7 of the Office Action, the Office rejected claims 6 and 17 under 35 U.S.C. §103(a) as being unpatentable over Brundridge in view of VanRooven and further in view of U.S. Patent No. 6,532,535 to Maffezzoni. On page 8 of the Office Action, the Office rejected claims 7-9 and 18-20 under 35 U.S.C. §103(a) as being unpatentable over Brundridge in view of VanRooven and further in view of U.S. Patent No. 6,992,991 to Duske.

The Present Invention

As amended herewith the claims of the present invention relate to a portable computing device controlled by an operating system, in which during boot of the device the operating system may be loaded intact, but if it is found that an internal non-volatile read/write memory drive, that is used to complete the boot of the device to provide a functional GUI, is corrupted, then the non-volatile read/write memory is automatically swapped with a temporary volatile RAM drive, to enable the device to complete the boot. In a preferred embodiment, the swapping process comprises un-mounting the corrupt non-

volatile read/write memory drive, and mounting the temporary volatile RAM drive in its place, so that it has the same drive letter as was allocated to the corrupt non-volatile read/write memory drive.

One advantage of the above is described in the specification at page 3, last paragraph, in that the code used by the device does not need to be redesigned so as to run without a read/write drive, and it also means that applications on the device can continue to offer much of the normal functionality provided by the device. Of course, the use of the volatile RAM drive in place of the non-volatile read/write memory drive may only be temporary, because, although applications may be saving data to the temporary volatile RAM drive in place of the non-volatile read/write memory drive, when power to the device is shut off, the temporary volatile RAM drive will lose the data stored therein. Nevertheless, more generally, the drive swapping capability provided by the present invention during boot of the device will at least allow the device to boot up, and at least some operations to be performed, and hence renders the device more resilient to corruption occurring in the non-volatile read/write memory drive. This is of particular significance, given that, in preferred embodiments, the non-volatile read/write memory drive is preferably a flash drive, where corruption can be quite common.

A *Prima Facie* Case of Obviousness Has Not Been Established

KSR (*KSR International Co. v. Teleflex Inc.,* 127 S. Ct. 1727, 82 USPQ2d 1385 (2007) requires that the Office provide "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Further, the Office must "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does," In addition, the Office

must make "explicit" this rationale of "the apparent reason to combine the known elements in the fashion claimed," including a detailed explanation of "the effects of demands known to the design community or present in the marketplace" and "the background knowledge possessed by a person having ordinary skill in the art."

Claim 1 as amended now recites:

> A portable computing device controlled by **a single resident operating system**, in which, during boot if the single resident operating system is loaded intact but an internal non-volatile read/write memory drive that is used to boot the device to **a functional GUI associated with the single resident operating system** is found to be corrupted, then **the non-volatile read/write memory drive is automatically swapped with a temporary volatile RAM drive by the single resident operating system** to thereby enable the single resident operating system to complete the boot. (emphasis added)

Thus, within the invention of claim 1 (and claim 12), a portable computing device is controlled by a single resident operating system. During boot, if the single resident operating system is loaded intact, a check is then made as to whether an internal non volatile read/write memory drive that is used to boot the device to a functional GUI associated with the single resident operating system is corrupted. If it is found to be corrupted, then the corrupted memory drive is automatically swapped with a temporary volatile RAM drive by the single resident operating system. This enables the single resident operating system to complete the boot.

Therefore, as claimed, the portable computing device is controlled by a single resident operating system, and the boot process is to boot the device to a functional GUI associated with this single resident operating system. If the non volatile memory drive that is required for the boot is corrupted, then the single resident operating system swaps the drive to the

temporary volatile RAM drive. As explained in the last office action response, such operation allows the device to boot up in the face of corruption of the non volatile read write memory drive, and at least some device operations may then be performed. The device is therefore rendered more resilient to corruption in the non volatile read write memory drive.

As noted above, the Office relies on Brundridge (US 6279109) in combination with VanRooven to reject claim 1. However, as explained clearly in column 3 lines 22-44, Brundridge relates to a software system that supports boot strap loading of a first operating system, for example the Windows 95 operating system, on a processor that is already running a second operating system, for example the Unix operating system, and that does not allow writing to persistent storage by the first operating system. The software system avoids the constraint against writing to the persistent storage by creating and utilizing a RAM drive. Typically, the software system invokes the first operating system i.e. the operating system that is to be boot strapped, to provide a functionality that is not supported by the second operating system, although the second operating system is the primary operating system in use on the processor. For example, a Netware operating system may not support a web browser written to run only on DOS or Windows. However, Windows supports the web browser, and hence the software system of Brundridge temporarily invokes the Windows system for usage of the web browser while the Netware operating system remains installed.

Therefore, Brundridge describes an arrangement where a computing device has a resident operating system that is the primary operating system in use on the processor, but which may not provide all the functionality to perform all user functions. Therefore, to get around this problem, Brundridge provides for the boot strap loading of another operating system that does provide the required functionality. However, because of the presence of the

primary operating system, the operating system that is to be boot strap loaded cannot write to persistent storage such as a hard disk, and hence a RAM drive is created within the device system memory (c.f. column lines 48 - 55). Hence, the conventional non volatile read write storage, being a hard disk drive in Brundridge, is not "corrupt" but is instead unavailable because it is being used by the primary operating system. Once the RAM drive has been established, graphical interface functionality associated with the boot strap operating system can then be provided.

Comparing Brundridge to the present invention as now claimed in the amended independent claims, Brundridge clearly fails to disclose all of: i) a portable computing device controlled by a single resident operating system ii) that the single resident operating system is loaded intact, but a non volatile read write memory drive that is used to boot the device to a functional GUI associated with the single resident operating system may be found to be corrupted, and iii) that the corrupted drive is then automatically swapped with a temporary volatile RAM drive by the single resident operating system. Instead, all Brundridge discloses is that a second operating system can be boot strap loaded on top of a first operating system, but that a RAM drive must be provided for use by the second operating system, because the usual non volatile storage in the form of a hard disk is unavailable, as it is being used by the primary operating system in use on the processor.

In light of these clear differences, the applicant believes that the present invention as defined by the claims as amended herewith clearly describes novel and non-obvious subject matter over any of the prior art of record, considered alone or in any combination. The Office is therefore respectfully requested to reconsider and withdraw this claim rejection.

Regarding the dependent claims, as each of the dependent claims incorporate the features of the independent claim on which they depend, each of the dependent claims is also distinguished from the cited prior art, for at least the same reasons.

The cited references, taken alone or in combination, do not render the present invention unpatentable. Accordingly, the Office is respectfully requested to reconsider and withdraw the rejection of the claims under 35 U.S.C. §103.

Conclusion

The present invention is not taught or suggested by the prior art. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection of the claims. An early Notice of Allowance is earnestly solicited.

The Commissioner is hereby authorized to charge the extension fee, and any additional fees associated with this communication to applicant's Deposit Account No. 50-4364.

Respectfully submitted

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Date

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